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# **i - J a M C S I I X**

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INVENTION AND INNOVATION EXHIBITION (I-JaMCSIIIX) 2023

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## 2023

INTERNATIONAL JASIN MULTIMEDIA & COMPUTER SCIENCE  
INVENTION AND INNOVATION EXHIBITION (I-JaMCSIIx) 2023

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# Modeling Cases of Stunting Toddler in Indonesia using the Conway Maxwell Poisson Regression Method

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**Abstract**— Stunting is a disruption in the growth and development of children due to chronic malnutrition and recurrent infections, which is characterized by their length or height being below standard. According to the results of the Indonesia Nutrition Status Study (SSGI) of the Ministry of Health (Kemenkes), the prevalence of toddlers experiencing stunting in Indonesia in 2022 will reach 21.6 percent. Based on data from the Asian Development Bank, in 2022, the percentage of stunting prevalence in Indonesia will be 31.8 percent, putting Indonesia in 10th place in the Southeast Asia region. Stunting can be caused by various factors, including health factors and social factors. One way to find out is by modeling stunting in toddlers based on the factors that influence it. This research aims to determine the factors that influence stunting among toddlers in Indonesia in 2022 using the Conway Maxwell Poisson (CMP) regression method. This method is an extension of Poisson regression, which analyzes the relationship between independent variables (discrete or continuous) and dependent variables (count data) under the assumption of equidispersion. However, in analyzing data with the Poisson regression model, there can be violations of the equidispersion assumption, namely overdispersion or underdispersion. Therefore, a CMP model is required to address equidispersion violations in Poisson regression. The results obtained show that using this method can overcome overdispersion, so that the factors influencing stunting in toddlers in Indonesia in 2022 will be exclusive breastfeeding, complete immunization, provision of vitamin A, low birth weight, poor nutrition, and diarrhea.

**Keywords**— *Stunting, Poisson Regression, Overdispersion, Conway Maxwell Poisson Regression*



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